Amendments To The Specification

Paragraph beginning at page 6 line 7 has been amended as follows:

The fin actuator section 10 has a means 100 operatively configured for rotating a power shaft (means for rotating) 100, preferably a reversible electric motor, and a power shaft (not shown), that is the motor's output shaft. The means for rotating 100 is mounted in an actuator housing 200, thereby constraining the rotating means from free movement. The power shaft is fixed to a threaded lead screw 120, preferably by means of a set screw coupler 110. The lead screw 120 has a lead nut 130 that traverses along the lead screw in response to the rotation of the lead screw 120. The lead screw 120 is lubricated to enable the lead nut 130 to move smoothly. By rotating the lead screw 120 in forward and reverse directions the lead nut 130 moves in opposite linear directions along the length of the lead screw 120, thus converting the rotational movement of the power shaft to linear movement. The lead nut 130 is operatively coupled to a crank arm 150 having slots 154 in such a way as to allow it freedom of movement without substantially contributing to the total backlash. Preferably the lead nut 130 includes fixed pins 140 on each side (bottom pin not shown) which slide into the slots 154 of the crank arm 150. The pins 140 serve to both restrain the lead nut 130 in the crank arm 150, and as the structural component used to transfer the torque to the crank arm 150. The crank arm 150 turns in relation to the movement of the lead nut 130, thereby converting linear movement to the rotational movement of the fin shaft 160. The crank arm 150 is rigidly attached to the fin shaft 160 thereby the fin shaft 160 is rotated with the rotation of the crank arm 150, adjusting the fin (not shown) on the outside of the missile according to the guidance system.

The Abstract beginning at page 15 line 2 has been amended as follows:

The present invention relates to a novel A fin actuator for a portable missile and a method of using the same. One aspect of the present invention includes a fin or wing actuator that meets very strict criteria to fit within a compact, portable missile while substantially limiting backlash. Another aspect of the present invention is a method of fin actuation in a portable missile while substantially limiting backlash.

Paragraph beginning at page 3 line 14 has been amended as follows:

An In an embodiment of the present invention a fin actuator(s) in a portable missile that substantially limits backlash includes a means for rotating a power shaft operatively configured to rotate the power shaft in a forward direction and a reverse direction; a means for converting the rotational movement of the power shaft to linear movement, including a lead screw fixedly coupled to the power shaft with a lead nut threadingly engaged and moving linearly along the lead screw in relation to the direction of rotation of the power shaft; and a means for converting the linear movement of the lead nut to rotational movement of a fin shaft, including the lead nut operatively coupled to a crank arm fixedly coupled to the fin shaft, effecting the rotation of the fin shaft according to the linear movement of the lead nut.